

## CLAIMS

1           1.       A transceiver system for use in a telecommunication system, said transceiver  
2 system comprising:

3           a transmission circuit including a transmitter input coupled to an input of a transmission  
4 amplifier;

5           a receiver circuit including a receiver output coupled to an output of a receiver amplifier;  
6 and

7           a transmission line interface circuit coupled to an output of said transmission amplifier  
8 and to an input of said receiver amplifier, said transmission line interface circuit including a  
9 matching impedance that is directly coupled to a feedback path of said transmission amplifier  
10 and that terminates the transmission line of said transceiver system.

1           2.       The system as claimed in claim 1, wherein said transmission line interface circuit  
2 includes a primary transformer winding that is connected in series with the output of the  
3 transmission amplifier.

1           3.       The system as claimed in claim 1, wherein said transmission circuit provides a  
2 first order high pass filter function.

1           4.       A transceiver system for use in a telecommunication system, said transceiver  
2 system comprising:

3           a transmission circuit including a differential transmitter input coupled to a differential  
4 input of a transmission amplifier;

5           a receiver circuit including a differential receiver output coupled to a differential output

6 of a receiver amplifier; and

7 a transmission line interface circuit coupled to a differential output of said transmission  
8 amplifier and to a differential input of said receiver amplifier, said transmission line interface  
9 circuit including a single impedance matching network that terminates the transmission line of  
10 said transceiver system.

1 5. The system as claimed in claim 4, wherein said transmission line interface circuit  
2 includes two primary transformer windings, each of which is connected in series with one each  
3 path in the differential output of the transmission amplifier.

1 6. The system as claimed in claim 4, wherein said transmission circuit provides a  
2 first order high pass filter function.

1 7 A line driver circuit for use in a transceiver system, said circuit comprising a  
2 transmission line interface circuit that is coupled to an output of a transmission amplifier and to  
3 an input of a receiver amplifier, said transmission line interface including a single impedance  
4 matching network that terminates a transmission line of the transceiver system.

1 8. A transceiver system for use in a telecommunication system, said transceiver  
2 system comprising:

3 a transmission circuit including a differential transmitter input coupled to a differential  
4 input of a transmission amplifier;

5 a receiver circuit including a differential receiver output coupled to a differential output  
6 of a receiver amplifier; and

7 a transmission line interface circuit coupled to a differential output of said transmission  
8 amplifier and to an differential input of said receiver amplifier, said transmission line interface

9 circuit including a matching impedance that is directly coupled to a feedback path of said  
10 transmission amplifier and that terminates the transmission line of said transceiver system.

1 9. The transceiver system as claimed in claim 8, wherein said transmission circuit  
2 includes a dual negative feedback network.

1 10. The transceiver system as claimed in claim 8, wherein said dual negative feedback  
2 network increases a relatively small impedance of the matching network to a larger line driver  
3 output impedance to match the characteristic impedance of the transmission line of said  
4 transceiver system.

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